

09/889961

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

11 APRIL 2001

PCT

To:

HENKEL, FEILER & HÄNZEL
Möhlstrasse 37
81675 - MÜNCHEN
ALLEMAGNE

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT
(PCT Rule 71.1)

Date of mailing
(day/month/year) 10.04.2001

Applicant's or agent's file reference
MCA-422 PC

IMPORTANT NOTIFICATION

International application No.
PCT/US00/02194

International filing date (day/month/year)
27/01/2000

Priority date (day/month/year)
29/01/1999

Applicant
MILLIPORE CORPORATION et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized officer

Fuerbass, C



Tel. +49 89 2399-8132



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference MCA-422 PC		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/02194	International filing date (day/month/year) 27/01/2000	Priority date (day/month/year) 29/01/1999	
International Patent Classification (IPC) or national classification and IPC B01D69/00			
Applicant MILLIPORE CORPORATION et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input checked="" type="checkbox"/> Certain defects in the international application</p> <p>VIII <input checked="" type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 16/08/2000		Date of completion of this report 10.04.2001	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Luethe, H Telephone No. +49 89 2399 7519 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/02194

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-30 as originally filed

Claims, No.:

1-47 as originally filed

Drawings, sheets:

1/11-11/11 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/02194

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	3,4,6-9,12-18,21-26,30,32-42,44-47
	No:	Claims	1,2,5,10,11,19,20,27-29,31,43
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-47
Industrial applicability (IA)	Yes:	Claims	1-47
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

R Item VIII

Certain observations on the international application

1. The application does not meet the requirements of Article 6 PCT, because claims 1, 5, 10, 13-15 (product claims: A), 19, 31 (method claims: B) and 43 are not clear.
2. Although the groups of claims A and B have been drafted as separate independent claims, they appear to relate within each single group effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness.
Moreover, lack of clarity of the claims as a whole arises, since the plurality of independent claims makes it difficult, if not impossible, to determine the matter for which protection is sought, and places an undue burden on others seeking to establish the extent of the protection.
In this case **one** claim per category (A and B) is appropriate.
3. Present claim 43 refers to "the method of any of the Claims 18 and 31". Claim 18 however is a product claim. This inconsistency leads to an ambiguity about the scope of the claim, thus rendering it unclear; accordingly, the claim requires amendment to remove this defect.
In this case it would seem that the intended reference is to product claim 19.

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:
D1: US-A-5 490 931 (T.-SH.CHUNG ET AL) 13 February 1996 (1996-02-13)
D2: US-A-4882223 [corresponds to FR-A-2 566 003 (INSTITUT NATIONAL DE LA RECHERCHE APPLIQUEE ET AL) 20 December 1985 (1985-12-20)];

annexed to this communication.

2. In so far as what can be understood from the claims:

The present application does not satisfy the criterion set forth in Article 33 (2) PCT because the subject-matter of claims 1, 2, 5, 10, 11, 19, 20, 27-29, 31 and 43 is not new as defined in the regulations (Rule 64 (1)-(3) PCT).

2.1. Document D1 (for citations see the International Search Report), discloses a hollow fibre membrane made of perfluorinated thermoplastic comprising a skinned, dense (i.e. non-porous) surface on one diameter and a porous surface on the opposite diameter and a process for its manufacture (cf. col. 1, lines 26-33; col. 2, lines 6-24; the examples; claim 1).
It is obviously usable for ultrafiltration (cf. col. 2, lines 25-27; col. 4, lines 3-19).

2.2. Claims for products defined in terms of a process of manufacture (present claim 43) are admissible only if the products as such fulfil the requirements of patentability, i.e. inter alia that they are new and inventive. A product is not rendered novel merely by the fact that it is produced by means of a new process. This is, as far as the subject-matter of claim 43 is concerned, not the case here (see point 2.1 above).

2.3. The applicant's attention is further drawn to the fact that D2, independently from D1, forms a novelty bar for the subject-matter of the same claims 1, 2, 5, 10, 11 and 43 (cf. col. 2, lines 9-34, lines 45-48; col. 6, line 65 to col. 7, line 9; fig. 2, 4, 7; example 2; claims 1 and 2).

2.4. Presently it seems that claims 3, 4, 6-9, 12-18 and 44-47 do not contain any features which meet the requirements of the PCT in respect of inventive step.

2.5. Present claim 19 obviously refers to a wet spinning method of hollow fibres ("... a portion of said die being submerged in a cooling bath ...") whereas claim 31 refers to a dry-wet spinning method of hollow fibres (cf. step d) of claim 31).

The method of claim 19 is anticipated by the teachings of D1 (cf. col. 2, line 63 to col. 4, line 2; col. 4, line 50, example 1) and that of claim 31 by D2 (cf. col. 3, line

66 to col 4, line 47).

Thus, as D1 discloses all the technical features defined by the subject-matter of claims 19, 20, 27-29 of the present application and D2 discloses all the technical features defined by the subject-matter of claim 31, said subject-matter is not new in respect of prior art as defined in the regulations (Rule 64(1)-(3) PCT).

2.6. Presently it seems that claims 21-26, 30 and 32 to 42 do not contain any features which meet the requirements of the PCT in respect of inventive step.

Re Item VII

Certain defects in the international application

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 and D2 is not mentioned in the description, nor is this document identified therein.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
3 August 2000 (03.08.2000)

PCT

(10) International Publication Number
WO 00/44482 A3

(51) International Patent Classification⁷: **B01D 69/08**,
71/36, D01D 5/24

Rajnikant, B. [IN/US]; 22 Breckenridge Road, Tewksbury, MA 01876 (US).

(21) International Application Number: PCT/US00/02194

(74) Agent: **HUBBARD, John, Dana**; Millipore Corporation, 80 Ashby Road, Bedford, MA 01730 (US).

(22) International Filing Date: 27 January 2000 (27.01.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/117,854 29 January 1999 (29.01.1999) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:
US 60/117,854 (CIP)
Filed on 29 January 1999 (29.01.1999)

(81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *With international search report.*

(71) Applicant (*for all designated States except US*): **MILLIPORE CORPORATION** [US/US]; 80 Ashby Road, Bedford, MA 01730 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **CHENG, Kwok-Shun** [US/US]; 7 Federal Hill Road, Nashua, NH 03062 (US). **GATES, T., Dean** [US/US]; 27 Nellian Way, Bedford, MA 01730 (US). **YEN, Larry, Y.** [US/US]; 10 Pomeroy Road, Andover, MA 01810 (US). **PATEL,**

(88) Date of publication of the international search report:
28 December 2000

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SKINNED HOLLOW FIBER MEMBRANE AND METHOD OF MANUFACTURE

(57) Abstract: Hollow fiber membranes having a skinned surface on one diameter, and a porous surface on the opposite diameter are produced from perfluorinated thermoplastic polymers by extruding a heated solution of the polymer having a lower critical solution temperature directly into a cooling bath to form the porous membrane by liquid-liquid phase separation. Extrusion can be conducted either vertically or horizontally. The hollow fiber membranes are useful as ultrafiltration membranes and as membrane contactors.

WO 00/44482 A3

INTERNATIONAL SEARCH REPORT

Int. Application No

PCT/US 00/02194

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 B01D69/08 B01D71/36 D01D5/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01D D01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 490 931 A (T.-SH.CHUNG ET AL) 13 February 1996 (1996-02-13) column 2, line 11-19	1,2,5
A	FR 2 566 003 A (INSTITUT NATIONAL DE LA RECHERCHE APPLIQUEE ET AL) 20 December 1985 (1985-12-20) claims 1,8	1,5,19
A	US 4 902 456 A (L.Y.YEN ET AL) 20 February 1990 (1990-02-20) cited in the application claims	19,27, 28,31, 38,39
A	US 4 990 294 A (L.Y.YEN) 5 February 1991 (1991-02-05) cited in the application claims; examples	19,27, 28,31, 38,39

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

11 July 2000

Date of mailing of the international search report

19/07/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Cordero Alvarez, M

INTERNATIONAL SEARCH REPORT

Information on patent family members

Int. Application No

PCT/US 00/02194

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5490931 A	13-02-1996	NONE	
FR 2566003 A	20-12-1985	AT 68991 T	15-11-1991
		DE 3584562 A	05-12-1991
		EP 0183757 A	11-06-1986
		WO 8600028 A	03-01-1986
		US 4882223 A	21-11-1989
US 4902456 A	20-02-1990	DE 68923319 D	10-08-1995
		DE 68923319 T	04-01-1996
		EP 0340732 A	08-11-1989
		JP 2548092 B	30-10-1996
		JP 8034874 A	06-02-1996
		JP 2208329 A	17-08-1990
		JP 2573524 B	22-01-1997
		US 4906377 A	06-03-1990
		US 4990294 A	05-02-1991
		US 5032274 A	16-07-1991
US 4990294 A	05-02-1991	US 4902456 A	20-02-1990
		US 5032274 A	16-07-1991
		DE 68923319 D	10-08-1995
		DE 68923319 T	04-01-1996
		EP 0340732 A	08-11-1989
		JP 2548092 B	30-10-1996
		JP 8034874 A	06-02-1996
		JP 2208329 A	17-08-1990
		JP 2573524 B	22-01-1997
		US 4906377 A	06-03-1990

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE
in its capacity as elected Office

Date of mailing (day/month/year) 30 October 2000 (30.10.00)	
International application No. PCT/US00/02194	Applicant's or agent's file reference MCA-422 PC
International filing date (day/month/year) 27 January 2000 (27.01.00)	Priority date (day/month/year) 29 January 1999 (29.01.99)
Applicant CHENG, Kwok-Shun et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
16 August 2000 (16.08.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Simin Baharlou Telephone No.: (41-22) 338.83.38
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From the INTERNATIONAL SEARCHING AUTHORITY

PCTNOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT
OR THE DECLARATION

(PCT Rule 44.1)

To:
MILLIPORE CORPORATION
 Attn. HUBBARD, JOHN DANA
 80 Ashby Road
 Bedford, Massachusetts 01730
 UNITED STATES OF AMERICA

Date of mailing
 (day/month/year)

19/07/2000

Applicant's or agent's file reference

MCA-422 PC

FOR FURTHER ACTION

See paragraphs 1 and 4 below

International application No.

PCT/US 00/ 02194

International filing date
 (day/month/year)

27/01/2000

Applicant

MILLIPORE CORPORATION et al.

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

Where? Directly to the International Bureau of WIPO
 34, chemin des Colombettes
 1211 Geneva 20, Switzerland
 Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentlaan 2
 NL-2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Renate Jordan

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference MCA-422 PC	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/ 02194	International filing date (day/month/year) 27/01/2000	(Earliest) Priority Date (day/month/year) 29/01/1999
Applicant MILLIPORE CORPORATION et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B01D69/08 B01D71/36 D01D5/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01D D01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 490 931 A (T.-SH.CHUNG ET AL) 13 February 1996 (1996-02-13) column 2, line 11-19	1,2,5
A	FR 2 566 003 A (INSTITUT NATIONAL DE LA RECHERCHE APPLIQUEE ET AL) 20 December 1985 (1985-12-20) claims 1,8	1,5,19
A	US 4 902 456 A (L.Y.YEN ET AL) 20 February 1990 (1990-02-20) cited in the application claims	19,27, 28,31, 38,39
A	US 4 990 294 A (L.Y.YEN) 5 February 1991 (1991-02-05) cited in the application claims; examples	19,27, 28,31, 38,39

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
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- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

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- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
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Date of the actual completion of the international search

11 July 2000

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INT NATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/02194

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